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Modeling of the starter-generator device for truck KAMAZ

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Abstract

© 2016 IEEE.The generalized mathematical model of the switched-induction machine is developed. Placement of the magnetic flux in space of the electrical machine in the ANSYS Workbench program is calculated. Flux linkages dependencies on the current value and the relative angle of rotor rotation as MATLAB-functions are generalized. The simulation model of the starter-generator device is designed in the MATLAB/Simulink environment. Modeling with parameters a starter-generator device for the truck KAMAZ is carried out. The main characteristics of the work of the starter-generator device in the starter and generator modes are defined. Comparison of results of modeling with regular electric equipment of the truck is made.

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Keywords

flux linkage, simulation model, starter-generator device, switched-induction machine

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